

ABSTRACT

There are provided transmission means (1) for transmitting an ultrasonic signal from a surface of a skin of a subject toward a blood vessel (21) of the subject, reception means (3) for receiving a reflected ultrasonic echo and converting the ultrasonic echo into an electric signal to obtain the ultrasonic echo signal in a depth direction from the surface of the skin, movement detection means (5) for analyzing a phase of the ultrasonic echo signal in a direction traversing the blood vessel to calculate a movement amount in each of a plurality of regions including a blood vessel wall and a vicinity of the blood vessel wall, analysis means (7) for analyzing a state of the blood vessel based on a variation in the calculated movement amount in each of the regions, boundary position detection means (8) for detecting a boundary position between the blood vessel wall and a blood flow region of the blood vessel based on a result of the analysis by the analysis means, and stability judgment means (15) for comparing the detected boundary position with a detection result in a previous cycle.